

### (12) INTERNATIONAL APPE CATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intell ctual Property Organization International Bureau

# 

## (43) International Publication Date 5 April 2001 (05.04,2001)

PCT

## (10) International Publication Number WO 01/23532 A1

(51) International Patent Classification?: A01N 1/02, A61K 35/50

C12N 5/08,

(74) Agent: MALAMI, Alkisti-Irene; 52 Skoufa St., GR-106 72 Athens (GR).

(21) International Application Number: PCT/GR00/00028

(81) Designated States (national): AE, AU, BG, BR, CA, CN, CR, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KP. KR, LK, LT, LV, MA, MK, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, UA, US, YU, ZA.

BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,

27 September 2000 (27.09.2000)

English (84) Designated States (regional): Eurasian patent (AM, AZ,

(25) Filing Language:

(26) Publication Language:

(22) International Filing Date:

English

GR

(30) Priority Data:

990100331 29 September 1999 (29.09.1999) Published:

NL, PT, SE).

With International search report.

(71) Applicants and

(72) Inventors: TSAKAS, Spyros [GR/GR]; 2 Mesologiou Sq., GR-116 34 Athens (GR). LINARDOS, Nikolaos [GR/GR]; 7 Kountourioti, GR-145 63 Kifissia (GR).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CRYOPRESERVED AMNIOTIC HUMAN CELLS FOR FUTURE THERAPEUTIC, DIAGNOSTIC, GENETIC AND OTHERS USES

(57) Abstract: This invention belongs to the field of biotechnology, cryobiology and human therapeutics. Object of the invention are a) amniotic cells originating from amniotic fluid that surrounds the embryo in its early development stages, b) amniotic cells that at early embryonic stage are floating within the human embryo-clone, c) every biological material which will be created directly or indirectly from the above amniotic cells, as well as every biological product or by-product, which will be the outcome of the use of the said cryopreserved amniotic cells, through their reproduction or multiplication under the same or any other modified form and which will possess the same genetic properties and applications. These amniotic cells are isolated from their natural environment and are care preserved in deep-freezing for very long periods of time after their own natural life-span, which is short within their natural environment, that is within the amniotic fluid and within the embryo-clone. The purpose is the genetic and medical use of these cells at a time posterior to their natural destruction. In this way, we succeed to use primal, undifferentiated and genetically identical cells of each human being for diagnosis and therapy of genetic or non-genetic diseases, malfunctions and accidents, where these are known nowadays or shall be applied in the future.